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10/700,065

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Donald J. Fasen

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EXAMINER

GOMA, TAWFIK A

ART UNIT

PAPER NUMBER

2627

NOTIFICATION DATE

DELIVERY MODE

01/10/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/700,065

Applicant(s)

FASEN, DONALD J.

Examiner

Tawfik Goma

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-2, 4-23, and 36-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This action is in response to the amendment filed on 10/15/2007.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 37 is rejected under 35 U.S.C. 102(b) as being anticipated by Guzik et al (US 2002/0114101).

Regarding claim 37, Guzik discloses a system for accessing data stored on a medium (fig. 12), comprising: means for reading first information from first and second regions on said medium (fig. 9 and fig. 12a), means for generating a first and second signals in response to reading the first information in said first and second regions respectively (482, 484, fig. 12a); and means for comparing the amplitudes of signals detected from said first information stored in said first region on said medium to signals detected from first information stored in said second region on said medium to generate a second signal (494, fig. 12a and par. 66).

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-23, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall (US 2002/0122373) in view of Guzik et al (US 2002/0114101).

Regarding claim 1, Marshall discloses a semiconductor memory comprising: a controller (fig. 2); a media including first information (fig. 7); and first read/write mechanism including an electron field emitter (fig. 15), configured to read the first information (par. 31). Marshall further discloses wherein the controller controls the movement of the medium to create any desired read/write path (par. 66). Marshall fails to disclose wherein the controller is configured to receive a first signal generated in response to the first information being read, and wherein the controller is configured to generate a second signal configured to cause a position of the media to be adjusted relative to the electron field emitter in response to the first signal. In the same field of endeavor, Guzik discloses using a servo burst system to adjust the position of the medium and the recording source (par.66) which includes a controller with means for comparing the amplitudes of signals detected from information stored in a first region on said media to signals detected from information stored in a second region on said media to generate said second signal (par. 64). It would have been obvious to one of ordinary skill in the art to modify the storage device disclosed by Marshall in order to provide information on the medium for generating a positioning signal as taught by Guzik. The rationale is as follows: One of ordinary skill in the art would have been motivated to generate positioning adjustment signal from information on a semiconductor memory in order to adjust the 'tracking error' of the read/write means with respect to the data bits on the memory.

Regarding claim 2, Guzik further discloses wherein the first information comprises position information (59, fig. 3).

Regarding claim 4, Marshall disclose a mover configured to move the position of the media relative to the read/write mechanism in response to a control signal (par. 69 and par. 89 and fig. 14). Guzik discloses a mover configured to adjust the position of the media relative to the first read/write mechanism in response to the second signal (par. 64). The rationale for combining Marshall and Guzik follows as in claim 1.

Regarding claim 5, Marshall discloses a second read/write mechanism configured to read information from the media (par. 37); wherein the mover is configured to adjust the position of the media relative to the second read/write mechanism in response a control signal (pars. 37-38). Guzik discloses wherein multiple areas of second information (burst information) are stored within the storage medium (par. 62).

Regarding claim 6, Marshall discloses wherein the controller is configured to generate a third signal configured to cause a timing window to be generated wherein a timing signal is generated in response to the first signal (par. 66). Guzik discloses wherein a timing signal is generated in response to the burst information (par. 63).

Regarding claim 7, Marshall further discloses a read/write mechanism configured to read second information from the media during the timing window (par. 66).

Regarding claim 8, Marshall further discloses a read/write mechanism configured to write second information to the media during the timing window (par. 66).

Regarding claim 9, Marshall discloses a method of reading information from a semiconductor storage device comprising: reading first information from a media in the semiconductor storage device (par. 66); generating a first signal in response to reading the first information (par. 39); and generating a second signal (110, fig. 2 and pars. 48 and 57), the

second signal configured to cause second information to be read from the media during a first time period (par. 66). Marshall fails to disclose wherein the second signal is generated from the first information read from the medium. In the same field of endeavor, Guzik discloses generating a second signal including timing information from first information read from a medium (par. 60). It would have been obvious to one of ordinary skill in the art to modify the method disclosed by Marshall by generating the timing signal from the first information read from the medium as taught by Guzik. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to generate the timing signal from the first information on the medium in order to generate a reproduction signal that is in phase with the bits on the medium.

Further regarding claim 9, Guzik discloses wherein a position signal (second signal) is generated by a controller with means for comparing the amplitudes of signals detected from the first information (servo burst information) stored in a first region on said media to signals detected from the first information (servo burst information) stored in a second region on said media to generate said second signal (par. 64). It would have been obvious to one of ordinary skill in the art to modify the storage device disclosed by Marshall in order to provide information on the medium for generating a positioning signal as taught by Guzik. The rationale is as follows: One of ordinary skill in the art would have been motivated to generate positioning adjustment signal from information on a semiconductor memory in order to adjust the 'tracking error' of the read/write means with respect to the data bits on the memory.

Regarding claim 10, Marshall further discloses reading the second information from the media during the first time period (par. 37).

Regarding claim 11, Guzik discloses reading the first information from a first cluster on the media (par. 62); and reading the second information from a second cluster on the media during the first time period (pars. 66-67). Marshall discloses wherein the information is read based on the equations in par. 48 and par. 57, which in combination with Guzik are set using the timing information generated from the first information.

Regarding claims 12 and 13, Marshall discloses wherein the second signal is configured to cause third information to be written to the media during a second time period (pars. 48-64). Marshall discloses wherein the timing windows are based on the arbitrary phase components of the equations in paragraphs 48 and 57. The combination of Marshall and Guzik selects the timing windows based on the generated timing signals as taught by Guzik (par. 60).

Regarding claim 14, Guzik further discloses reading the first information from a first cluster on the media ('servo bursts', par.66). Marshall discloses writing the second information to a second cluster on the media during the second time period (par. 66, fig. 1d and par. 44).

Regarding claim 15, Marshall discloses generating a third signal, the third signal configured to cause a position of the media to be adjusted relative to a read/write mechanism (110, fig. 2 and pars. 48 and 57). Guzik discloses wherein the third signal is generated from the first information (burst information, par. 64). It would have been obvious to one of ordinary skill in the art to modify the method disclosed by Marshall by generating a third signal based on first information read from the medium as taught by Guzik.. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to modify the method disclosed by Marshall in order to generate a third signal based on first information in order to produce a tracking error signal from the reproduced information.

Regarding claims 16, Marshall discloses a storage device comprising: a media that includes a first cluster and a second cluster (par.43), the first cluster including first information (par. 39); first means for generating timing information (110D, fig. 2 and par. 66); and second means for writing second information in the second cluster using the timing information (pars. 37 and 66). Marshall discloses that the controller 110D generates timing windows for writing to the different clusters or arrays on the medium. Marshall fails to disclose where the timing windows are generated from the first information read from the medium. In the same field of endeavor, Guzik discloses a servo burst information system, where the servo information contains timing information (par. 60) and the system includes a controller with means for comparing the amplitudes of signals detected from information stored in a first region on said media to signals detected from information stored in a second region on said media to generate said second signal (par. 64). It would have been obvious to one of ordinary skill in the art to modify the storage device disclosed by Marshall in order to provide timing information on the medium as taught by Guzik. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to provide timing information on the medium in order to read/write information at a proper bit density and phase such that jitter error is minimized. It would have further been obvious to have the positioning system of Guzik which includes comparing amplitudes of information from two regions on the disc. The rationale is as follows: One of ordinary skill in the art would have been motivated to compare the amplitudes of information from a first and second region in order to compensate for a "tracking error" in the device.

Regarding claim 17, Marshall further discloses third means for reading third information from the second cluster using the timing information (par. 37). Marshall discloses a plurality of arrays or clusters and a plurality of means for reading and writing to the arrays using the timing information generated by the controller 110D.

Regarding claim 18, Marshall further discloses third means for generating position information (110D, fig. 2 and par. 44); and fourth means for adjusting the media relative to the second means in response to the position information (110C, fig. 2 and par. 44). Marshall fails to disclose wherein the position information is generated from the first information. Guzik further discloses that the burst information is used to generate a signal to adjust the position of the medium relative to the head (par. 64). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the storage device disclosed by Marshall in order to provide information on the medium for generating a positioning signal as taught by Guzik. The rationale is as follows: One of ordinary skill in the art would have been motivated to generate positioning information from information on a storage device in order to adjust the 'tracking error' of the read/write means and the data bits.

Regarding claim 19, Marshall further discloses wherein the second cluster includes a plurality of patches, wherein each of the plurality of patches includes a plurality of tracks, and wherein the second means is for writing the second information to one of the plurality of tracks (135A, 135B, fig. 2 and par. 66).

Regarding claim 20, Marshall further discloses wherein the position information indicates a position of the second means relative to the one of the plurality of tracks (par. 44).

Regarding claim 21, Marshall further discloses wherein the fourth means is for adjusting the media relative to the second means in response to the position information to align the second means with a center of the one of the plurality of tracks (par. 44 and fig. 14). Guzik further discloses that a tracking error signal is generated from the first information for positioning the head at the center of the track (par. 60).

Regarding claim 22, Marshall discloses an atomic resolution storage device comprising: a media including information (fig. 1d); a field emitter associated with the media, configured to read the information (par. 39); wherein a controller is configured to receive a first signal (110D, fig. 2); the controller being configured to generate a second signal (110E, 110F, fig. 2); a mover configured to adjust the position of the media relative to field emitter in response to the second signal (par. 44). Marshall fails to disclose wherein the information is servo information which includes timing information, and wherein the position signal is generated from the servo information. In the same field of endeavor, Guzik discloses servo burst information recorded on a medium which includes timing information (par. 60). It would have been obvious to one of ordinary skill in the art to modify the storage device disclosed by Marshall in order to provide timing information on the medium as taught by Guzik. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to provide timing information on the medium in order to read/write information at a proper bit density and phase such that jitter error is minimized. Guzik further discloses wherein position information is generated from the servo burst information (par. 60) with a controller with means for comparing the amplitudes of signals detected from information stored in a first region on said media to signals detected from information stored in a second region on said

media to generate said second signal (par. 64). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the storage device disclosed by Marshall in order to provide information on the medium for generating a positioning signal by comparing amplitudes as taught by Guzik. The rationale is as follows: One of ordinary skill in the art would have been motivated to generate positioning information from information on a storage device in order to adjust the 'tracking error' of the read/write means and the data bits.

Regarding claim 23, Marshall discloses a second field emitter configured to read second information from the medium (par. 44) and wherein the controller is configured to adjust the position of the medium relative to the second field emitter in response to the second signal (par. 44 and fig. 2). Guzik discloses wherein the information is servo information as applied above, and that the medium can contain a plurality of servo burst information areas (par. 62).

Regarding claim 36, Marshall discloses a method for storing and retrieving information including the steps of providing semiconductor media for storing and retrieving data (fig. 7); providing a read/write mechanism movable relative to said media for writing data to and reading data from said media (fig. 15). Marshall fails to disclose servo information stored on said media for controlling said means for positioning said read/write mechanism. In the same field of endeavor, Guzik discloses servo burst information recorded on a medium, wherein position information is generated from the servo burst information (par. 60) and the information is used with a controller with means for comparing the amplitudes of signals detected from information stored in a first region on said media to signals detected from information stored in a second region on said media to generate said second signal (par. 64). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the storage device

disclosed by Marshall in order to provide servo information on the medium for generating a positioning signal as taught by Guzik. The rationale is as follows: One of ordinary skill in the art would have been motivated to generate positioning information from information on a storage device by comparing amplitudes in order to adjust the 'tracking error' of the read/write means and the data bits. Marshall also fails to disclose the use of servo information to control timing of the read/write mechanism. Guzik discloses servo burst information recorded on a medium which includes timing information (par. 60) which is used to control the timing of the device. It would have been obvious to one of ordinary skill in the art to modify the storage device disclosed by Marshall in order to provide timing information on the medium as taught by Guzik. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to provide timing information on the medium in order to read/write information at a proper bit density and phase such that jitter error is minimized.

#### ***Response to Arguments***

Applicant's arguments filed 10/15/2007 have been fully considered but they are not persuasive. Applicant's arguments that none of the references show the comparison of amplitudes of first information stored on a first and second region is not persuasive because Guzik clearly discloses comparing amplitudes for servo information that is recorded in two regions in order to generate a positioning signal (pars. 64 and 66).

#### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Raese discloses a data storage device with wafer alignment compensation (US 2003/0016613).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tawfik Goma whose telephone number is (571) 272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Tawfik Goma/  
1/05/2008

/William Korzuch/  
SPE, Art Unit 2627